



MI Flu Focus

Influenza Surveillance Updates Bureaus of Epidemiology and Laboratories



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Updates of Interest:

Michigan reported an H3N2 variant (H3N2v) case in CDC's [week 34 FluView](#) report, case had swine contact in week prior to illness and was hospitalized; FDA panel [recommends](#) adjuvanted flu vaccine for seniors.

Influenza Surveillance Report for the Week Ending September 5, 2015

Michigan Disease Surveillance System

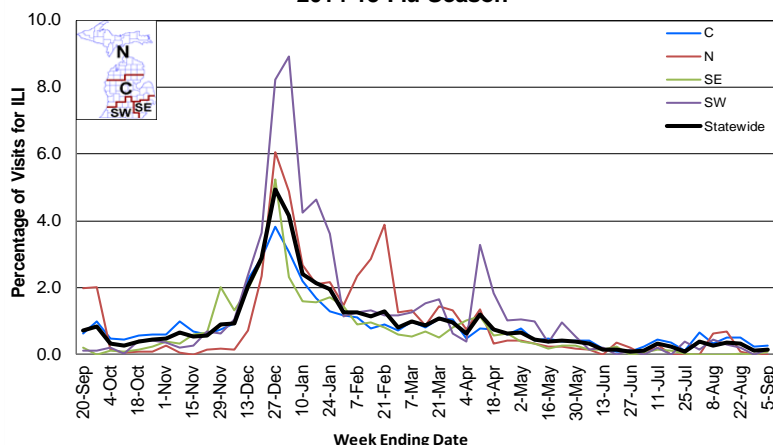
MDSS influenza data indicated that compared to levels from the previous week, aggregate reports increased while individual reports remained the same. Aggregate reports were higher, while individual reports were similar to levels seen during the same time period last year.

Emergency Department Surveillance

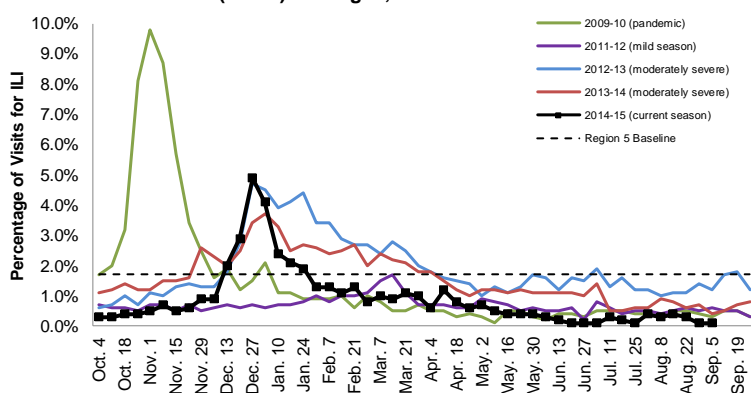
Compared to levels from the week prior, emergency department visits from constitutional complaints and respiratory complaints were higher. Levels of constitutional complaints and respiratory complaints were lower than levels seen during the same time period last year.

- 10 constitutional alerts (2SW, 8C)
- 8 respiratory alerts (1SE, 2SW, 4C, 1 Statewide)

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2014-15 Flu Season



Percentage of Visits for Influenza-like Illness (ILI) Reported by
the US Outpatient Influenza-like Illness Surveillance Network
(ILINet): Michigan, Select Seasons



Sentinel Provider Surveillance

The proportion of visits due to influenza-like illness (ILI) remained the same at 0.1% overall; this is below the regional baseline (1.7%). A total of 7 patient visits due to ILI were reported out of 4,812 office visits. Please note: These rates may change as additional reports are received.

Number of Reports by Region (15 total):

- C (3)
- N (1)
- SE (9)
- SW (2)

Become a Sentinel Provider!

As part of pandemic influenza surveillance, CDC and MDHHS highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie DeVita (devitas1@michigan.gov) for more information.

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Hospital Surveillance

The CDC Influenza Hospitalization Surveillance Project provides population-based rates of hospitalization due to severe influenza illness through active surveillance and chart review of lab-confirmed cases, from Oct. 1, 2014 – Apr. 30, 2015, for Clinton, Eaton, Genesee, and Ingham counties. The cumulative total during the reporting period was 88 pediatric hospitalizations (45.6 per 100,000 population) and 374 adult hospitalizations (54.6 per 100,000) within the catchment area.

The MDHHS Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide, and 9 hospitals (C, SE & SW) reported. Results are listed in the table below. Additional hospitals are welcome to join; please contact Seth Eckel at eckels1@michigan.gov.

Age Group	New Flu Hospitalizations Reported	Total 2014-15 Flu Hospitalizations to Date
0-4 years	0	31 (1N, 21C, 4SE, 5SW)
5-17 years	0	33 (28C, 5SE)
18-49 years	0	68 (2N, 12C, 49SE, 5SW)
50-64 years	0	130 (3N, 14C, 99SE, 14SW)
65 years & older	0	529 (20N, 19C, 435SE, 55SW)
Total	0	791 (26N, 94C, 592SE, 79SW)

Laboratory Surveillance

MDHHS Bureau of Laboratories reported 1 new positive influenza result: 1 A/H3. A total of 569 positive influenza results have been reported for the 2014-15 season. Influenza results for the 2014-15 season are in the table below.

Respiratory Virus	# Positive Respiratory Virus Results by Region				Total	# Specimens Antigenically Characterized	# Tested for Antiviral Resistance
	C	N	SE	SW			# Resistant / Total # Tested
2009 A/H1N1pdm				1	1		
Influenza A/H3	114	34	101	249	498	16* (3 A/Texas/50/2012-like**, 13 A/Switzerland/9715293/2013-like)	0 / 146
Influenza B	20	6	19	23	68	68 (48 B/Yamagata lineage [3* B/Massachusetts/02/2012-like [†] , 9* B/Phuket/3073/2013-like ^{††}], 17 B/Victoria lineage, 3 inconclusive)	
Influenza A, unsubtypeable	1			1	2		

*Specimens antigenically characterized by CDC; **A/Texas/50/2012 (H3N2) virus is the H3N2 component of the 2014-15 Northern Hemisphere flu vaccine, A/Switzerland/9715293/2013-like is an antigenic variant of the current vaccine virus; [†]B/Massachusetts/02/2012 virus is the B/Yamagata component of the 2014-15 Northern Hemisphere trivalent and quadrivalent flu vaccines; ^{††}B/Phuket/3073/2013 virus is the B/Yamagata component of the 2015-16 Northern Hemisphere trivalent and quadrivalent flu vaccines.

In addition, 9 sentinel clinical labs (3SE,2SW,4C) reported influenza results. One lab (SE) reported sporadic influenza A activity. No labs reported influenza B activity. One lab (SE) reported sporadic Parainfluenza activity. No labs reported RSV activity. Three labs (C,SW) reported sporadic Adenovirus activity. One lab (SW) reported hMPV activity. Testing volumes remain low in all regions.

Influenza Congregate Settings Outbreaks

There was 1 new facility outbreak reported to MDHHS (1 unknown etiology/no testing). There have been a total of 156 respiratory facility outbreaks reported to MDHHS for the 2014-15 season. Respiratory facility outbreaks are listed in the table below by facility type and surveillance region.

Facility Type	C	N	SE	SW	Total
Adult Care Facility		1	2		3
Long-Term Care / Assisted Living Facility	28	12	37	39	116
K-12 School	1		2		3
Daycare				1	1
Unknown / Investigation Pending	16		4	9	29
Healthcare Facility				3	3
Correctional Facility				1	1
Total	45	13	45	53	156

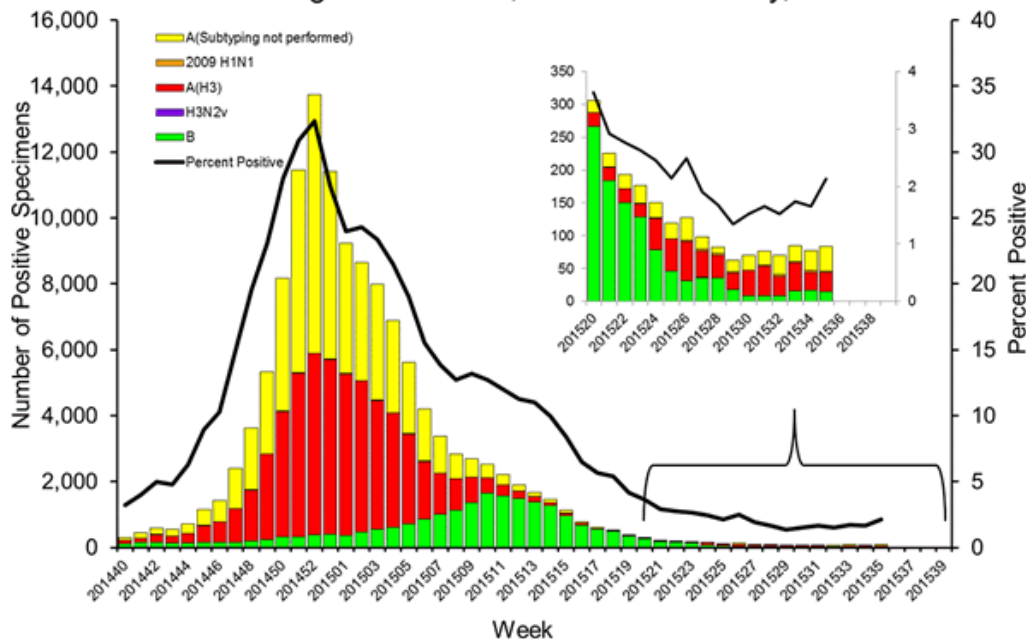
Influenza-associated Pediatric Mortality

No new influenza-associated pediatric deaths were reported to MDHHS. There have been a total of 3 influenza-associated pediatric deaths (1C, 1SE, 1SW) reported to MDHHS for the 2014-15 season.

National: In the United States, 0.9% of outpatient visits were due to influenza-like illness, which is below the national baseline of 2.0%. There have been 145 influenza-associated pediatric deaths reported during the 2014-15 season. Additional information is in the weekly FluView reports available at: www.cdc.gov/flu/weekly/. **NOTE:** Influenza surveillance in the U.S. will continue through the summer months with condensed reports available at www.cdc.gov/flu/weekly/; the full FluView resumes on October 16, 2015. [FluView interactive](#) will be updated over the summer months.

International: Globally, influenza activity continued in the Southern Hemisphere with an increase in Oceania, peaking in temperate South America, and decreased activity in South Africa. In Australia and New Zealand, influenza B predominated followed by influenza A(H3N2). Summary information is available at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2014-15





H3N2 VARIANT CASE (H3N2V) IN MICHIGAN

Michigan reported a human infection with influenza A(H3N2) variant (H3N2v) virus in CDC's [week 34 FluView](#) report. The case was hospitalized in June 2015 as a result of their illness but has fully recovered. The case also reported close contact with swine in the week prior to illness onset. No human-to-human transmission was identified.

Michigan's H3N2v case is the [second case](#) nationally in 2015. Minnesota reported an H3N2v case in July.

For more information on variant influenza viruses, see CDC's [website](#).

AVIAN INFLUENZA NEWS IN NORTH AMERICA

- [Genetically modified chickens glow in the dark to stop bird flu](#)
- [Kauai's chicken die-off has scientists trying to rule out avian influenza](#)
- [Nebraska braces for possible return of bird flu](#)
- Any reports of sick or dead birds should be forwarded immediately to the proper agency:
 - For domestic poultry, contact MDARD:
 - M-F 8AM-5PM, 1-800-292-3939
 - After hours/weekends, 517-373-0440
 - For wildlife (die-off of waterfowl, gulls, or shorebirds), contact DNR:
 - M-F 8AM-5PM, 517-336-5030
 - After hours/weekends, 1-800-292-7800

AVIAN INFLUENZA A(H5N1), A(H7N9) NEWS

- [Nigeria reports 6 new H5N1 outbreaks involving 28,000 chickens](#)
- [International Journal of Infectious Diseases: Retrospective study of risk factors of mortality in human avian influenza A\(H7N9\) cases in Zhejiang Province, China, March 2013 to June 2014](#)
 - Age 60 years and greater and poor hand hygiene associated with higher death rates
- [Live poultry exposure and public response to influenza A\(H7N9\) in urban and rural China during two epidemic waves in 2013-2014](#)

FLU WEBSITES

www.michigan.gov/flu
www.cdc.gov/flu
www.flu.gov
<http://vaccine.healthmap.org/>

CDC'S FLU PREVENTION PARTNERS

CDC is encouraging immunization providers to become Flu Prevention Partners and work with CDC to promote flu vaccination. CDC's [Resources for Flu Prevention Partners](#) website features partner success stories, photos, tools for promotion efforts, free resources, and information about becoming a partner.

INFLUENZA-RELATED JOURNAL ARTICLES

- *MMWR*: [Notes from the Field: Pneumonia associated with an influenza A H3 outbreak at a skilled nursing facility - Florida, 2014](#)
 - Attack rate 46%, fatality rate 9%
- *Clinical Infectious Diseases*: [Association of influenza vaccination coverage in younger adults with influenza-related illness in the elderly](#)
 - Flu vaccination among adults aged 18-64 years was inversely associated with flu illnesses in the elderly
- [Effectiveness of seasonal flu vaccine in preventing lab-confirmed flu in primary care in the U.K.: 2014-15 end of season results](#)
 - Overall adjusted VE against all flu was 34%
- [Febrile seizures after 2010-11 trivalent inactivated influenza vaccine](#)
 - Neither trivalent flu vaccine nor PCV13 were associated with increase in febrile seizures
- *mBio*: [The reemergent 1977 H1N1 strain and the gain-of-function debate](#)
- [Inactivated eyedrop influenza vaccine adjuvanted with Poly\(I:C\) is safe and effective for inducing protective systemic and mucosal immunity](#)
- [The effects of a deleterious mutation load on patterns of influenza A/H3N2's antigenic evolution in humans](#)

OTHER INFLUENZA-RELATED NEWS

- CIDRAP: [FDA panel recommends adjuvanted flu vaccine for seniors](#)
- [Flu vaccine long lasting, study suggests](#)
- [Taiwan reports separate H5N8, H5N2 outbreaks](#)

Archived editions of FluBytes are available [here](#) and MI FluFocus archives are [here](#).

For questions or to be added to the distribution list, please contact Stefanie DeVita at devitas1@michigan.gov.

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